Instruction Manual for the Revolutionary Science RS-200 RevSpin Microcentrifuge

REVOLUTIONARY SCIENCE

Manufacturer of Precision Laboratory Equipment

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NOTE: This manual contains important information, safeguards and operating instructions for the operation of the REVOLUTIONARY SCIENCE model RS-200 RevSpin Microcentrifuge by Alternative Pioneering Research & Development, Inc. (APR&D, Inc.)

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REVOLUTIONARY SCIENCE

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Introduction

Thank you for purchasing the Revolutionary Science RevSpin RS-200 Microcentrifuge. We are confident that when used correctly, our microcentrifuge will provide years of reliable service in your lab or classroom. We have made every effort to use high quality, durable parts to deliver the performance expected of instruments costing 2 to 3 times as much.

Please let us know what you think of our products, positive or negative, so we can continue to enhance and improve our products in the future.

Sincerely yours,

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Recommended Safeguards

1. NEVER ATTEMPT TO OPERATE THIS PRODUCT WITH THE COVER REMOVED!!
2. While spinning, never attempt to remove the cover or touch the rotor.
3. While unit is operating, do not lift from bench or invert.
4. Never place objects other than the appropriate microtubes in the rotor.
5. Never operate with a cracked, loose or damaged rotor or cover.
6. Always make sure the rotor is properly balanced with equally weighted tubes in opposite holes (Operating this unit with an unbalanced rotor will cause severe vibration and damage, which is not covered under warranty!)
7. Never attempt to disassemble or modify the RS-200.
8. Never hold down or bypass the safety switch.
9. Before operating, make sure the rotor is fully engaged on the shaft and the thumb screw tightened.
10. Do not clean or spill on any parts with solvents that may attack plastic or cause cracks in the rotor.
11. If the RevSpin RS-200 is used in a manner not specified by the manufacturer, the protection provided by the unit may be impaired.

Intended uses for the RevSpin RS-200:

The RS-200 is only intended for biological samples and is not recommended for pathogenic, or particulate samples. Toxic, reactive, radioactive or flammable materials must not be used in the RS-200. Total weight limit for biological materials placed in the unit should not exceed 20 grams per tube.

The RevSpin RS-200 is intended for indoor use with a temperature range of 2°C-40°C. The RS-200 is not intended for high altitude use.

Recommended Room and Storage Conditions:

-Do not store your REVOLUTIONARY SCIENCE RS-200 in direct sunlight, or in dusty or poorly ventilated areas.

-Do not store in a cold or moist room for extended periods of time.

-Never immerse your REVOLUTIONARY SCIENCE RS-200 in water.

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Operating Instructions

(1) PLACEMENT:

Place unit on a stable, flat and clean surface, at least 6 inches away from the edge of the counter and other moving equipment. Make sure the power cord is clear of hot surfaces and other hazards.

(2) PREPARE MICRO-TUBES:

Prepare samples in micro-tubes so that tubes are filled to equal levels.

(3) CONNECTING THE POWER:

Plug the power cord to your RS-200 into a grounded electrical outlet of the appropriate voltage. The RS-200 requires only 180 watts, so any circuit should do. Make sure the cord is routed safely away from mechanical hazards and hot surfaces. Avoid routing the cord where others may trip on it or snag it.

(4) OPENING and CLOSING THE COVER:

To open the cover, press button and lift up while unit is plugged in. To close cover push down on cover until wire latch engages fully in upper oval hole.

NOTE: Forcing the cover open while rotor is turning will activate the emergency stop mode which, in turn, will shorten motor brush life and may re-mix samples.

(5) LOADING:

With the cover off, you can access the rotor, which may be loaded in place or removed for convenience. The rotor has 16 holes. Be sure to never load the rotor in an asymmetrical or uneven manner. Load your RS-200 only with a symmetrical placement of an even number of micro-tubes in the same ring of holes. For example, 2 tubes of equal weight will cause imbalance if one is placed in the outer ring of holes, and the other is placed opposite in the inner ring. If only one sample needs to be spun, you must add a second tube on the opposite side of equal weight.

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(6) REMOVING and INSTALLING ROTOR:

To remove, unscrew thumb screw and then grip the rotor on both sides and lift firmly. If the rotor does not slide off with hand force, it may be gently pried off with two appropriate levers evenly applied to opposite sides. Follow these instructions in reverse order to install rotor, always make sure the thumb screw is tightened when in use. If the rotor becomes loose on the shaft, or the two halves begin to separate, do not use it! If under warranty, return the rotor to the factory for replacement. If out of warranty, or the failure is not due to a manufacturing defect, you may order a new rotor from the dealer or from Revolutionary Science. (Many of our customers find it useful to purchase multiple rotors for multiple projects or work groups. You will find they are very reasonably priced!)

(7) SPEED SELECTION:

Close cover after loading the rotor. The motor will run only when the cover is fully engaged and locked in place. Select the proper speed by pressing the upper middle button. Note the speed selection table on the front of the unit.

(8) TIMER OPERATION:

To select the specific time needed to run your samples press the left button to increase the time (in minutes) and the right button to decrease the time. If no time is selected the centrifuge automatically starts at 00 and counts up (in minutes.)

(9) START/STOP/PULSE OPERATION:

Once you have selected the speed and time (a selected time is optional) press the lower middle button for 1+ seconds to start rotor rotation. To stop rotor rotation press the lower middle button again. You may also use pulse mode by quickly pressing the lower middle button. We do not recommend running spin times of longer than 30 minutes, or operating the unit unattended.

(10) IMBALANCE DETECTION:

The RS-200 comes equipped with an imbalance detection system, which instantly cuts power to the motor to prevent damage to unit and specimens. If a loaded rotor is imbalanced the operator will see E1 appear on the display after pressing the START button. When this appears the operator will need to rearrange the tubes in the rotor or check the individual tube weights.

(11) UNLOADING THE MICRO-TUBES:

Once the rotor has completely stopped, the operator may push the button and lift up the cover and remove the tubes, or remove the rotor and unload the tubes elsewhere.

Care and Maintenance

Your microcentrifuge should be cleaned periodically to ensure optimum performance. Only clean your RevSpin RS-200 when you are sure that it is not plugged in or spinning. Using a soft cloth soaked in water and mild detergent, wipe the outside of the unit and both sides of the cover. Be careful not to scratch the plastic surfaces with abrasive cleaners or dirty clothes. Make sure you clean any dust or debris from the bottom of the rubber base to permit the rubber to do it's job, and avoid sliding around on the bench. You may remove the rotor for thorough cleaning. The rotor may be immersed in water and mild detergent. The rotor should be thoroughly drained and dried before re-mounting on the motor shaft. Avoid spilling water into the unit. If water is spilled, quickly invert the unit and allow to drain for several minutes. Do not disassemble the unit or you will void your warranty. Do not operate on wet surfaces.

BRUSH REPLACEMENT:

The RS-200 uses a brush type motor. After many hours of use the brushes may need replacement. Worn brushes will cause intermittent operation. Due to safety concerns, we strongly recommend you return the unit to the factory for service. Reassembly of this unit is much tougher than disassembly. Call customer support for a cost estimate. Brushes that wear out during the 2 year warranty will be replaced at no charge.

RevSpin Microcentrifuge Specifications

Model No.:	RS-200
Power Requirements:	100-230 VAC 60 HZ 1.5 amps, detachable grounded cord
Net Weight:	5 lb
Dimensions:	19.1cm diameter x 22.9cm tall
	7.5" diameter x 9" tall
Motor:	Ball bearing, PMDC, brush type
Speed Selections:	Off/Pulse/2,000/4,000/6,000/8,000/10,000
Display:	Digital
RPM:	High-10,000
RCF:	High speed-4,819/6,238
Rotor Capacity:	16 tubes, 1.5 or 2.0 ml
Rotor Type:	45°, unique vertical loading, glass reinforced
Warranty:	2 year, repair or replacement

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Registration

For your future reference and to expedite answers to your questions, please complete the following information:

Date Purchased:_____

Serial Number:_____

Model Number:_____

Purchased From:_____

Full Two Year Warranty

Your REVOLUTIONARY SCIENCE RS-200 is warranted to be free from defects of material or workmanship under normal use for a period of two years from date of purchase. If your RS-200 proves to be defective within this warranty period, Revolutionary Science will repair or replace your unit at our option. This warranty will be void if malfunction is caused by accident, misuse, or negligence, including tampering, abuse, or damage in transit. This warranty excludes any relief for incidental or consequential damages. Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights, you may also have other rights, which may vary from state to state. Your RS-200 comes with several built in safety features. Any attempt to interfere with the operation of these features makes this warranty null and void.

To validate this warranty, be sure to complete and return the Warranty Registration Card, found on page 8.

Please fill out this page, or a copy of it, and send it to the address below to validate your warranty.

Warranty Registration Card for the

REVOLUTIONARY SCIENCE RS-200 REVSPIN MICROCENTRIFUGE

(Please Print)

Date Purchased:_____ Serial Number:_____

Purchased From:_____

Name of Purchaser:_____

☐ Company ☐ School ☐ Individual (Please check one)

Name of institution:_____

Department:_____

Address:_____

_____

Intended use:_____

Where did you hear of our product?:_____

Comments:_____

_____

_____

Mail to: Revolutionary Science

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